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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/565,172 | 01/19/2006 | Rodney Alan Cross | 3003-1115-1 | 7245 |
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| 466 | 7590 | 10/16/2007 |
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EXAMINER

PICKARD, ALISON K

ART UNIT

PAPER NUMBER

3676

MAIL DATE

DELIVERY MODE

10/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/565,172

Applicant(s)

CROSS ET AL.

Examiner

Alison K. Pickard

Art Unit

3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-76 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 51-76 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
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| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 66 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 66, "the recess" lacks antecedent basis.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 51-54, 57, 58, 60, 61, 64-65, 67, 68, 70-72, 75, and 76 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura (5,224,714).

Kimura discloses an apparatus having a first portion 3 with a frusto-conical surface 31, a second portion 4 with a flat surface and a biasing device 10. The apparatus operates in a non-contact mode with gas between the faces, but the surfaces are in contact when the portions are at rest. The second portion includes an axially moveable tile carrier 5 with a tile element 4 defining the flat surface. The second sealing surface is located within a housing 6 having a ring (leg portion near line 2rb) on which the surface slides (forms the radial sealing surface).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 55, 56, 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Ide (4,738,453).

Kimura does not disclose plural pivotably mounted tiles. Ide teaches a non-contact sealing apparatus having a first portion biased toward a second portion. Ide teaches using lift pads/tiles 40 having flat surfaces and biasing devices 42. Ide teaches that the use of the pads helps control the fluid film, and thus the seal, between the faces. Ide also teaches that this arrangement is less affected by contaminants. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the flat face of Kimura with the pad/tiles taught by Ide to improve the sealing function of the apparatus.

7. Claims 51-53, 57-60, 62-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gardner (3,499,653) in view of Kimura (for evidence only).

Gardner discloses an apparatus comprising a first portion 10 having a flat face 12 and a second portion 13 having a frusto-conical face 14/22. A biasing device 20 biases the faces together but allows a gap between during operation. Gardner also discloses that an additional portion can be positioned opposite the second portion (see Fig. 3). The apparatus (for example in Fig. 3) has a housing 26 comprising a ring 27 that the second sealing surface slides along.

Gardner does not disclose the flat face on the second portion. Reversing the parts such that

Art Unit: 3673

portion 10 had the frusto-conical surface is considered obvious. See *In re Gazda* 104 USPQ (CCPA 1955). Kimura provides evidence that the surfaces can be arranged on such parts.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Gardner such that the flat face is on the second (or third) portion and the frusto-conical is on the first portion 10. Regarding claim 59, Gardner discloses a coating can be applied to the surfaces but does not state the coating is ceramic. The selection of a known material based on its suitability for its intended use is considered obvious. See *In re Leshin*, 125 USPQ 416 (CCPA 1960). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a ceramic coating.

8. Claims 73 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Ide as applied to claim 69 and further in view of Gardner.

Kimura does not appear to disclose a coating on the surfaces. Gardner teaches using a coating to provide lubrication in dry gas environments. However, Gardner does not state the coating is abradable. The selection of a known material based on its suitability for its intended use is considered obvious. See *In re Leshin*, 125 USPQ 416 (CCPA 1960). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an abradable coating to provide lubrication in certain environments.

9. Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura.

Kimura discloses coil springs as the biasing device. The examiner takes official notice that a wave spring is an equivalent biasing device to a coil spring. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus by using a wave spring instead of coil springs.

Art Unit: 3673


Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alison K. Pickard whose telephone number is 571-272-7062. The examiner can normally be reached on M-F (10-7:30), with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer Gay can be reached on 571-272-7029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Alison K. Pickard
Primary Examiner
Art Unit 3673

AP